

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1-35 are pending in this application. Claims 10-35 are withdrawn from consideration. In the outstanding Office Action, Claims 1 and 8 were rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,441,247 to Quilliam in view of U.S. Patent No. 6,098,536 to Ohkawa; and Claims 2, 3, 6, 7, and 9 were rejected under 35 U.S.C. §103(a) as unpatentable over Quilliam and Ohkawa and further in view of U.S. Patent No. 6,205,918 to Takahashi; Claim 5 was rejected under 35 U.S.C. §103(a) over Quilliam and Ohkawa and further in view of U.S. Patent No. 5,543,894 to Carolan; and Claim 4 was indicated as including allowable subject matter.

Applicants appreciate the Examiner indicating that Claim 4 includes allowable subject matter. However, for at least the reasons set forth below, Applicants respectfully submit that all claims are in condition for allowance.

Specifically, the applied art does not render obvious the claimed features of an intermediate conveyor that includes a plurality of paper transport means disposed along at intervals along the intermediate transport path and a plurality of detecting means for detecting at least one leading and trailing edge of the paper being transported, the detecting means disposed at a plurality of intervals from upstream to downstream, and wherein at least one of the detecting means is located before and after each of the plurality of paper transport means, as recited in Claim 1.

Instead, Quilliam discloses as best shown in Figure 2, a microswitch 52 located in the sheet transport path. The microswitch 52 detects the presence or absence of a sheet in the transport path. If a sheet is present, the microswitch 52 opens an electrical circuit. The

microswitch 52 and a microswitch 94 are both provided to detect the absence of a sheet of paper in the transport path.

Ohkawa discloses a photosensor 108 with feeler that is positioned on the sheet transport path R between the press drum 20 and registration rollers 33a and 33b which is a leading edge sensing means responsive to the leading edge of sheet 3.

Takahashi discloses a paper size sensor 56 mounted on the paper tray 21. An output of the sensor 56 indicates whether or not the papers 22 on the tray 21 have a preselected length. A paper passage sensor 46 is responsive to an interval between the time when the leading edge of the paper 22 reaches sensor 46 and the time when the trailing edge of paper 22 moves away from sensor 46.

It is respectfully submitted that only Applicants' own disclosure teaches the combined features claimed, particularly the provision of paper detecting means located before and after each of the plurality of transport means. That is, even the collective teachings of the references fail to render obvious the combined features claimed.

In particular, Quilliam is directed to a sheet feeding apparatus in which a feature of the invention is to provide an underlapping of each successive sheet with a previous sheet during the staging process. When a second sheet is delivered from the sheet storage assembly, the leading edge of the second sheet is intentionally directed towards the trailing edge and related portion of the first sheet, thus causing an underlapping relationship between the first and second sheets. As such, the end device is always presented with a single sheet of paper. Therefore, the end device take-up rollers are never presented with a unitary leading edge of a sheet after initial setup of the apparatus. Instead, the sheets are presented as a continuous stream of paper with each subsequent sheet underlapping a previous sheet thereby emulating the process of sheet advancement occurring in an original equipment setup.

According to Quilliam, the essence of the invention is to present sheets to an end device that

are in an under or overlapping relationship so as to avoid presenting leading edges of sheets to the end device. Please see column 3, lines 18-68.

Additionally, Quilliam discloses in column 7, lines 10-38 and Figure 5 that the leading edge of sheet S2 is in contact with roller 84 so when roller 84 begins rotation, sheet 2 will be drawn to transport surface 74. By positioning the leading edge of sheet S2 at roller 84, sheet S2 is in underlapping relationship with sheet S1. Sheets S1 and S2 remain in these positions until end device feed rollers 98 begin to rotate. At this point, sheet S1 begins to move toward output end 96. Rotation of feed roller 98 causes shaft 76 to rotate in a complementary direction. Connecting belt 88 distributes this rotational motion to shaft 82 which is attached to roller 84. In this configuration, both rollers 78 and 84 are passively driven by a feed roller 98. Thus, according to Quilliam, “advancement of both sheets S1 and S2 are directly determined by the end device without using potentially complicated sensors, motor, and processors to determine when and how fast to present sheets to the end device” (emphasis added).

Accordingly, it is respectfully submitted that there is no motivation to combine the above-discussed references. When an obviousness determination is based on multiple prior art references, there must be a showing by the patent examiner of some “teaching, suggestion, or reason” to combine the references. Gambro Lundia AB v. Baxter Healthcare Corp., 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the “absence of such a suggestion to combine is dispositive in an obviousness determination”). Whether motivation to combine the references is shown is a question of fact. See In re Dembiczak, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Evidence of a suggestion, teaching, or motivation to combine prior art references may flow, *inter alia*, from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Although a

reference need not expressly teach that the disclosure contained therein should be combined with another, see Motorola, Inc. v. Interdigital Tech. Corp., 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997), the showing of combinability, in whatever form, must nevertheless be “clear and particular.” Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. “Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires the latter.” Winner International Royalty Corp. v. Wang, 53 USPQ2d 1580, 1587 (Fed. Cir. 2000). Interpreting the Supreme Court’s decision in Dickinson v. Zurko, 50 USPQ2d 1930 (1999) regarding the standard of review in patent matters, the CAFC determined that when upholding a rejection of a claimed invention in an appeal, the CAFC must find that the decision by the USPTO Board of Appeals and Interferences is supported by “substantial evidence,” In re Gartside, 53 USPQ2d 1769 (Fed. Cir. 2000). Accordingly, for a proper rejection based on a combination of references, the rejection must be supported by evidence that the motivation to combine references was not merely feasible, but desirable.

It is respectfully submitted that there is no basis in the teachings of either Quilliam or Ohkawa to support their applied combination. Certainly, the outstanding Office Action fails to cite to any specific teachings within either reference to support the applied combination. Again, Quilliam is concerned with the over or underlapping relationship between consecutive sheets. In fact, Quilliam teaches away from having additional sensors in the transport direction and therefore one of ordinary skill in the art would not design Quilliam to include additional sensors. Accordingly, it is respectfully submitted that the combination of Quilliam and Ohkawa is the result of hindsight reconstruction in view of the teachings of the present specification, and is improper. It is respectfully submitted that only Applicants’ own disclosure teaches the arrangement and combination presently claimed.

The features set forth in the claimed invention discussed above, provide sensors at predescribed intervals upstream and downstream along the paper transport direction in the

intermediate transport path. In this way, paper of differing length can be detected along the paper transport direction that corresponds to different paper sizes. The features discussed in the claimed invention above are not taught or suggested in the applied art.

Accordingly, withdrawal of the rejection of the claims under 35 U.S.C. § 103(a) is respectfully requested.

Consequently, for the reasons discussed in detail above, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. Therefore, a notice of allowance is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.

Respectfully submitted,

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